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10/673,456	09/30/2003	Yoshimi Tsuboi	Q77529	2010

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WASHINGTON, DC 20037

EXAMINER
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LAO, LUN S

ART UNIT	PAPER NUMBER
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2615

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05/15/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/673,456

Applicant(s)

TSUBOI, YOSHIMI

Examiner

Lun-See Lao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date: 20070421
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### *Introduction*

1. This action is response to the application filed 09-30-2003. Claims 1-9 are pending.

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). Figure 2 as filed consist primarily of blocks and numbers. Any structural details necessary for a proper understanding of the subject matter sought to be patented should be shown in the drawings. MPEP 608.02(d). Correction is required. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsuji (EP 1071220 A2).

Consider claim 5 Tsuji teaches that a signal receiving apparatus comprising:

a multipath detection section (see fig. 11 (5 noise reducer) ) and see page 6[0036]-page 7[0039]) configured to acquire an occurrence frequency of a multipath noise in a signal by detecting a number of multipath noises occurred in the signal within a predetermined time (such as two different time constance (13 and fig.13 and see page 11 [0061]); and

a control section (11,13) configured to control a stereo separation ratio for decoding the signal in accordance with the occurrence frequency of the multipath noise (see page 12[0067]-page 13 [0074]).

Consider claims 6-7 Tsuji teaches that the signal receiving apparatus of the control section comprises:

a time constant part (see fig.11 (13)) configured to control a time constant in accordance with the occurrence frequency of a multipath noise; and a separation controlling part (11) configured to control a stereo separation ratio for decoding the

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signal in accordance with the time constant (see page 12[0067]-page 13 [0074]); and the signal receiving apparatus the control section comprises:

a separation controlling part (see fig.11 (11) and figs 13-15) configured to control a restoration time from a monaural mode to a stereo mode in accordance with the occurrence frequency of the multipath noise (see page 12[0067]-page 13 [0074]).

Consider claims 1-3, these are the method claims corresponding to system claims 5-7. Thus note claims 5-7 respectively for rejections.

5. Claims 1-2 and 5-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujiwara (US PAT. 5,784,465).

Consider claim 5 Fujiwara teaches that a signal receiving apparatus comprising:  
a multipath detection section (see fig. 1 (42) and fig.5) configured to acquire an occurrence frequency of a multipath noise in a signal by detecting a number of multipath noises occurred in the signal within a predetermined time (such as two different time constance (see fig. 6 and col. 15 line 35-col. 16 line 44); and

a control section (see fig. 1 (22,34) and fig. 7) configured to control a stereo separation ratio for decoding the signal in accordance with the occurrence frequency of the multipath noise (see col. 17 line 1 –col. 18 line 23).

Consider claim 6 Fujiwara teaches that the signal receiving apparatus of the control section comprises:

a time constant part (see fig.1 (45,48 and fig. 6)) configured to control a time constant in accordance with the occurrence frequency of a multipath noise; and a

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separation controlling part (22) configured to control a stereo separation ratio for decoding the signal in accordance with the time constant(see col. 15 line 34-col. 16 line 44).

and the signal receiving apparatus the control section comprises: a separation controlling part (see fig.1 (11) and figs 13-15) configured to control a restoration time from a monaural mode to a stereo mode in accordance with the occurrence frequency of the multipath noise (see page 12[0067]-page 13 [0074]).

Consider claims 1-2, these are the method claims corresponding to system claims 5-6. Thus note claims 5-6 respectively for rejections.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara (US PAT. 5,784,465) in view of applicant's prior art.

Consider claim 7 Fujiwara does not clearly teach that the signal receiving apparatus the control section comprises: a separation controlling part configured to control a restoration time from a monaural mode to a stereo mode in accordance with the occurrence frequency of the multipath noise.

However, The applicant's prior art teach that the signal receiving apparatus the control section comprises: a separation controlling part (see fig.1, (Q2, Q3 and 1C-C3) configured to control a restoration time from a monaural mode to a stereo mode in accordance with the occurrence frequency of the multipath noise( application page 1 line 15-page 2 line 13).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention was made, so that the stereo receiver taught by Fujiwara's output signal mono and stereo would be more efficiency and accuracy.

Consider claim 3, it is a method claim corresponding to the apparatus claim 7. See previous rejection for apparatus claim 7 rejection.

8. Claims 4 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji (EP 1071220 A2) in view of Nagata (US PAT. 5,390,344).

Consider claim 8 Tsuji does not clearly teach the signal receiving apparatus of the separation controlling part lengthens the restoration time as the multipath noise occurrence frequency increases, and shortens the restoration time as the multipath noise occurrence frequency decreases.

However, Nagata teaches that the signal receiving apparatus (see fig.1) of the separation controlling part lengthens the restoration time as the multipath noise occurrence frequency increases, and shortens the restoration time as the multipath noise occurrence frequency decreases (see table 2 and col. 7 line 49-col. 8 line 68).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention was made to combine the teaching of Nagata into the teaching of Tsuji to provide a receiver which is capable of improving characteristics of input FM audio signals in accordance with the state of the input FM signals.

Consider claim 9 Nagata teaches that the signal receiving apparatus of the signal receiving apparatus is installed on a mobile object (see col.2 lines 13-45).

Consider claim 4, it is a method claim corresponding to the apparatus claim 8. See previous rejection for apparatus claim 8 rejection.

9. Claims 4 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara (US PAT. 5,784,465) as modified by applicant's prior art as applied to claims 1, 3 and 5, 7 above, and further in view of Nagata (US PAT. 5,30,344).

Consider claim 8 Fujiwara does not clearly teach the signal receiving apparatus of the separation controlling part lengthens the restoration time as the multipath noise occurrence frequency increases, and shortens the restoration time as the multipath noise occurrence frequency decreases.

However, Nagata teaches that the signal receiving apparatus (see fig.1) of the separation controlling part lengthens the restoration time as the multipath noise occurrence frequency increases, and shortens the restoration time as the multipath noise occurrence frequency decreases (see table 2 and col. 7 line 49-col. 8 line 68).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time of the invention was made to combine the teaching of Nagata into the teaching of



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Fujiwara to provide a receiver which is capable of improving characteristics of input FM audio signals in accordance with the state of the input FM signals.

Consider claim 9 Nagata teaches that the signal receiving apparatus of the signal receiving apparatus is installed on a mobile object (see col.2 lines 13-45).

Consider claim 4, it is a method claim corresponding to the apparatus claim 8. See previous rejection for apparatus claim 8 rejection.

### **Conclusion**

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sessink (US PAT. 4,878,252) is cited to show other related SIGNAL RECEIVING METHOD AND APPARATUS.

11. Any response to this action should be mailed to:

Mail Stop \_\_\_\_ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

**(571) 273-8300**

Hand-delivered responses should be brought to:

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao, Lun-See *L.S.*  
Patent Examiner  
US Patent and Trademark Office  
Knox  
571-272-7501  
Date 04-23-2007

  
VIVIAN CHIN  
SUPERVISOR/PATENT EXAMINER  
TECHNOLOGY CENTER 2600